

## **APPENDIX A**

**1<sup>ST</sup> O'Leary Provisional Application**  
**Serial No. 60/132,305**  
**Filed May 3, 1999**

5/03/99  
20 U.S. PTO

# PROVISIONAL APPLICATION FOR PATENT COVER SHEET

1c541 U.S. PTO  
60/132305  
05/03/99

This is a request for filing a PROVISIONAL APPLICATION under 37 CFR 1.53(b)(2).

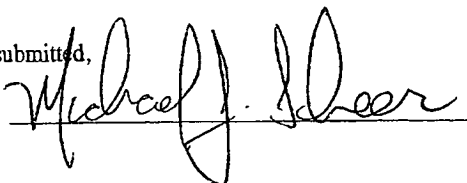
Docket Number		PP/2167-95		Type a plus sign (+) inside this box -->	+
INVENTOR(s)/APPLICANT(s)					
LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)		
Cantor	Mark		c/o The Chase Manhattan Bank 140 East 45th Street, 11th Floor New York, NY 10017-3162		
TITLE OF THE INVENTION (280 characters max)					
METHOD FOR PROCESSING INTERNET POINT OF SALE PAYMENTS USING AUTOMATED TELLER MACHINE SWITCH SETTLEMENT					
CORRESPONDENCE ADDRESS					
Ostrolenk, Faber, Gerb & Soffen, LLP 1180 Avenue of the Americas New York, NY 10036					
STATE	NY	ZIP CODE	10036	COUNTRY	U.S.A.
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/>	Specification 12 Pages	<input type="checkbox"/>	3 Drawing(s) 3 Sheets	<input type="checkbox"/>	Small Entity Statement
<input type="checkbox"/>	Other (specify) <span style="border: 1px solid black; display: inline-block; width: 300px; height: 1.2em; vertical-align: middle;"></span>				
METHOD OF PAYMENT					
Our check No. 84272 is enclosed to cover the Provisional Application filing fee. The Commissioner is hereby authorized to charge any additional or missing fee to Deposit Account Number: 15-0700				PROVISIONAL APPLICATION FILING FEE AMOUNT (\$)	\$150.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government:

☒ No. ☐ Yes, Agency and Government contract number are: \_\_\_\_\_

Respectfully submitted,

SIGNATURE



Date

05/3/99

TYPED NAME: Michael J. Scheer

REGISTRATION NO. 34,425

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METHOD FOR PROCESSING INTERNET POINT OF SALE PAYMENTS  
USING AUTOMATED TELLER MACHINE SWITCH SETTLEMENT

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FIELD OF THE INVENTION

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The present invention generally relates to methods for processing electronic payments purchases made over the Internet and more particularly to a method by which a consumer pushes a payment to an Internet merchant.

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BACKGROUND OF THE INVENTION

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Presently, there are several methods by which a consumer can electronically pay for purchases made on the Internet, such as credit cards, off-line debit cards, online debit cards, digital cash, and smart cards. Each of these methods has its own advantages and disadvantages. An off-line debit card uses the traditional credit card system for clearing the payment but no Personal Identification Number (PIN) is required. The use of an on-line debit card requires that the consumer supply his or her PIN, and the amount of the purchase is debited from the consumer's account instantaneously. One disadvantage with both the on and off-line debit cards, from a consumer's point of view, is the inability to reverse or repudiate the transaction. In contrast, by use of a credit card, the consumer at a later date can reverse the transaction (e.g., if the purchased goods are never shipped to the consumer).

30

It is predicted that credit cards will be the dominant on-line point of sale (POS) payment choice for at least the next five years. While new Internet payment

mechanisms have been rapidly emerging, consumers and merchants have been happily conducting a growing volume of commerce using basic credit card functionality. None of the emerging efforts to date have gotten more than a  
5       toehold in the market place and momentum continues to build in favor of credit cards.

Automated Clearing House (ACH) payments have begun to be used with respect to payments made via the Internet. These types of transactions typically involve  
10       payments made with respect to loans, insurance and utilities. It is predicted that ACH payments will not be widely deployed to on-line POS for two reasons. First, an ACH transaction does not provide transaction  
15       authorization, and secondly, authentication requires a pre-existing relationship between the customer and the merchant. In contrast to ACH transactions, credit and off-line debit cards require authorization but not authentication. Similarly, on-line debit requires  
20       authentication (i.e., a PIN or other authentication).

Two significant drawbacks with some or all of the above models for Internet POS payments are that:  
1) a pre-existing relationship between the consumer and the merchant must exist; and 2) the consumer is required to provide the merchant with his or her account and/or  
25       PIN. The first drawback of some of the above models cannot be practically overcome as it is impossible for a consumer to have pre-existing relationships with all of the potential merchants conducting business on the Internet. With respect to the provision of the  
30       consumer's account and PIN number over the Internet, even though mail order companies have been operating in this manner for years, many consumers feel uneasy about

electronically providing their account and PIN numbers to strangers over the Internet.

Figure 1 depicts the conventional debit/credit transaction model. In this model, if the consumer 100 desires to buy a compact disc (CD) from a web retailer 100, the consumer 100 electronically transmits its debit or credit card number and/or PIN to the web retailer 110. Upon receipt of this information from the consumer 100, the retailer 110 submits the proposed transaction to its bank 120 for approval. The merchant's bank 120 then contacts the bank 130 (issuer bank) which issued the debit/credit card to the consumer 100. The issuer 130 checks the consumer's balance on the card and either approves or rejects the proposed transaction. This approval or denial is transmitted from the issuer bank 130 back to the merchant bank 120 which then informs the web retailer 110 of the approval or denial. If the charge to the debit/credit card was approved, the transaction is completed by the web retailer 110 shipping the goods to the consumer 100.

#### SUMMARY OF THE INVENTION

In the method of the present invention, a consumer uses its Internet software to browse the Internet for goods being offered by various Internet merchants. Once the customer finds an item its wishes to purchase, the consumer's Internet software extracts from the merchant's web site a price quote for the proposed purchase along with an identification of the merchant's bank and account number. The customer then transmits a payment request message to its own bank over the Internet. This payment request message simultaneously requests that the consumer's account be debited for the

amount of the price quote and that the payment be made  
crediting the merchant's account at the merchant's bank.  
If there is sufficient funds in the consumer's account,  
the consumer's bank will return a payment advice  
5 digitally over the Internet which guarantees the payment.  
This payment advice is then transmitted by the customer's  
Internet software to the merchant's Internet server.  
With guaranteed funding, the merchant can immediately  
deliver the goods of services to the consumer. In an  
10 alternative embodiment, the payment advice is transmitted  
via the Internet directly from the consumer's bank to the  
merchant's Internet server.

Payment totals for each merchant are settled on  
a daily basis using Electronic Funds Transfer via the  
15 regional ATM network infrastructure with funds being  
moved from the consumer's account at its bank to the  
merchant's account at its bank.

By the method of the present invention, both of  
the significant disadvantages of the prior art have been  
20 overcome. First of all, the consumer is no longer  
providing its confidential financial information to  
strangers over the Internet. Rather, the consumer is  
dealing directly with its own trusted institution, the  
bank. Furthermore, no pre-existing relationship has to  
25 exist between the customer and the merchant. The only  
requirement is that the merchant recognize and honor the  
guaranteed payment from the consumer's bank.

#### BRIEF DESCRIPTION OF THE DRAWINGS

30 For the purposes of illustrating the present  
invention, there is shown in the drawings a form which is  
presently preferred, it being understood however, that

the invention is not limited to the precise form shown by the drawing in which:

Figure 1 illustrates the prior art method of Internet payment processing using debit and/or credit cards;

Figure 2 depicts a first embodiment of the method of the present invention; and

Figure 3 depicts a second embodiment according to the method of the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

In contrast to the credit card, on-line and off-line debit and other payment models existing today, one of the unique features of the method of the present invention is the flow of the payment instruction and the payment which follows. In the credit card, on-line and off-line debit models, a consumer provides the merchant with an instruction that authorize the merchant to collect funds from the consumer's bank account. Depending on the system, this payment instruction results in a guaranteed customer payment in the case of an on-line debit rather than a lengthy wait for funds (such in the case of a check) or something in between in the case of an off-line debit and credit card. The difference between the prior art models and the model of the present invention can be described as the difference between a "pull" and a "push" model. In the conventional models of today, the merchant "pulls" the payment from the consumer's account, while in the present invention the customer "pushes" the payment to the merchant's account.

Figure 2 illustrates a first embodiment of the method of the present invention. Prior to conducting any on-line purchases using the method of the present invention, the consumer establishes an Internet payment account (IPA) 230 with its bank 220. Once this IPA account 230 has been established, the consumer funds this account from its direct deposit account (DDA) 240. The establishment of a separate IPA 230 is preferable from a consumer's point of view in order to provide a separate accounting and statement from its normal DDA account 240. Furthermore, the IPA account might not be interest bearing and the consumer would accordingly only fund small amounts into this account in order to cover potential on-line purchases. In an alternative embodiment of the present invention, the consumer's payment request for credits and debits can be made directly against its DDA account 240. Furthermore, the IPA 230 can be funded from a consumer's Line of Credit or credit or debit card account held by the bank 220.

The consumer uses Internet browsing software 200 loaded on its personal computer in order to browse the Internet and visit the websites of various merchants. As a consumer browses the web site of a particular merchant, all of the information viewed by the consumer is downloaded onto the consumer's computer. This information downloaded to the consumer's computer includes prices for the goods and services offered by the merchant as well as an identification of the merchant's bank and account number at the bank. If a consumer decides to go ahead with a particular purchase, the consumer's Internet software 200 extracts from the downloaded information the price for the item and the identification of the merchants bank and account number.



A transaction identifier is preferably assigned at this time either by the merchant's Internet server 210 or the consumer's software 200

5       With this information captured, the consumer's Internet software 200 formats and transmits a message containing this information to its own bank 220. For example, this payment instruction from the consumer asks that fifty dollars be debited against its account #1234 and that credit be forwarded to merchant's account #5678  
10       at the merchant's bank.

15       With respect to authentication, because the consumer's are pushing the payments to merchants, rather than the merchants pulling payments from consumer accounts, the consumers do not need to authenticate themselves to the merchant at the POS. Rather, the consumers authenticate themselves to their own bank 220 which then executes the payment to the merchant's account. The consumer's bank 220 will require some form of authentication of the payment request from the  
20       consumer. This authentication can be in the form of a software certification, an encrypted PIN, or the mother's maiden name of the consumer. Once the bank 220 has authenticated that the message truly originated from the consumer, the bank 220 can then fulfill the payment  
25       request.

30       In fulfilling the payment request from the consumer, the bank 220 will initially verify that there is sufficient funds in the consumer's IPA account 230 to satisfy the payment request. If there are sufficient funds in the consumer's IPA account 230, the account is immediately debited or the funds held such that funds equal to the amount of the payment are no longer available in the customer's IPA account 230. The funds

debited from the consumer's IPA account 230 are credited to the merchant's account 260 as described in more detail below. If insufficient funds are available in the customer's IPA account 230, the payment request is denied and the consumer's Internet software 200 is informed of the insufficient funds condition. In an alternative embodiment of the present invention, the consumer is provided with the ability to transfer funds from its DDA account 240 into the IPA account 230 such that sufficient funds are available to cover the payment request.

If sufficient funds exist in the IPA account 230 to process the payment request, the consumer's bank 220 generates a digital payment advice which is transferred back over the Internet to the consumer's Internet software 200. This payment advice is digitally signed by the consumer's bank 220, thus guaranteeing the payment. Once this payment has been digitally signed by the consumer's bank 220, all of the risk associated with this payment lies with the consumer's bank 220 and not with the merchant 210 or its bank 250 as with some of the models described above. For this reason, the model of the present invention is an attractive alternative to merchants conducting business on the Internet. Various forms of implementing the digital signature by the consumer's bank 220 are well known in the art.

Upon receipt of the payment advice from the consumer's bank 220, the consumer's Internet software 200 forwards this payment advice to the merchant's Internet server 210. Once the merchant has received the payment advice from the consumer's Internet software 220, the transaction can be completed by the shipment of the goods or provision of the service to the consumer.

The settlement process between the consumer's bank 220 and the merchant's bank 250 typically occurs once a day, at the end of the day. As described above, the consumer's IPA account 230 has been debited for the amount of the purchase. This debited amount now needs to be transferred to the merchant's bank 250 in order that a credit be applied to the merchant's account 260. In a preferred embodiment of the present invention, the merchant has established a deposit only IPA 260 in which funds can only be deposited and not withdrawn. This is a security feature which protects the merchant from various forms of electronic fraud. In the present invention, the consumer's bank 220 accomplishes the payment settlement via the conventional ATM electronic Funds Transfer process. Using this well known process, the consumer's bank 220 designates the merchant's bank 250 and the specific account 260 to which the credit of the purchased amount should be applied. Furthermore, the consumer's bank can include in the ATM message the transaction ID previously described for tracking and auditing purposes by the merchant and the merchant's bank 250. Periodically, funds from the merchant's deposit only IPA account 260 are transferred by the merchant bank 250 into the merchant's conventional DDA account 270.

Figure 3 illustrates an alternative embodiment of the present invention. All of the initial steps with respect to the consumer browsing the merchant's website and formulating the payment request which is forwarded to its bank 220 are the same as illustrated in Figure 2. The difference in the embodiment illustrated in Figure 3 as compared with the embodiment depicted in Figure 2 is that the payment advice from the consumer's bank 220 is forwarded directly to the merchant's Internet server 210.

This payment advice will therefore come on a separate Internet link from the link connecting the consumer's Internet software 200 to the merchant's Internet server 210. This feature will provide additional confidence to the merchant that the advice has indeed originated from the consumer's bank and is not a fraudulently generate advice.

The push model of the present invention has significant advantages over the conventional methods used today. This method is extremely easy for online banking customers to adopt. The method guarantees payment to the merchant without any concerns about repudiation inherent in the use of a credit card. The present invention reduces fraud loses compared to offline debit, credit card or checks. The method allows consumers to conduct online shopping without having to provide any personal confidential financial information to unknown merchants. The method allows consumers to conduct these financial transactions solely with its own financial institution.

Although the present invention has been described in relation to particular embodiments thereof, many other variations and other uses will be apparent to those skilled in the art. It is preferred, therefore, that the present invention be limited not by the specific disclosure herein, but only by the gist and scope of the disclosure.

We claim:

1. A method for effecting electronic payments for online purchases made by a consumer from a merchant, the method comprising the steps of:

retrieving a purchase amount and an identifier  
5 for a merchant's account from an Internet site of the  
merchant;

forming a payment request including the purchase amount and the merchant's account identifier; the consumer transmitting the payment request to a financial institution at which the consumer maintains an account;

debiting the consumer's account;  
generating a payment advice guaranteeing the  
payment amount will be credited to the merchant's  
15 account;

transmitting the payment advice to the merchant; and

crediting the merchant's account using the Automated Teller Machine (ATM) system infrastructure.

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ABSTRACT OF THE INVENTION

25 A method for effectuating electronic payments  
for Internet purchases. Upon finding an item which itr  
wishes to purchase on an Internet retailer's web site, a  
consumer uses its Internet software extracts from the web  
site a price quote for the proposed purchase along with  
an identification of the merchant's bank and account  
number. The customer then transmits a payment request  
message to its own bank over the Internet. This payment  
request message simultaneously requests that the  
30 consumer's account be debited for the amount of the price  
quote and that the payment be made crediting the  
merchants account at the merchants bank. The consumer's  
bank returns a payment advice digitally over the Internet  
which guarantees the payment, The payment advice is then  
35 transmitted by the customer's Internet software to the  
merchants. With guaranteed funding, the merchant can  
immediately deliver the goods of services to the  
consumer. The customer's bank credits the merchant's  
account using Electronic Funds Transfer via the regional  
40 ATM network infrastructure.

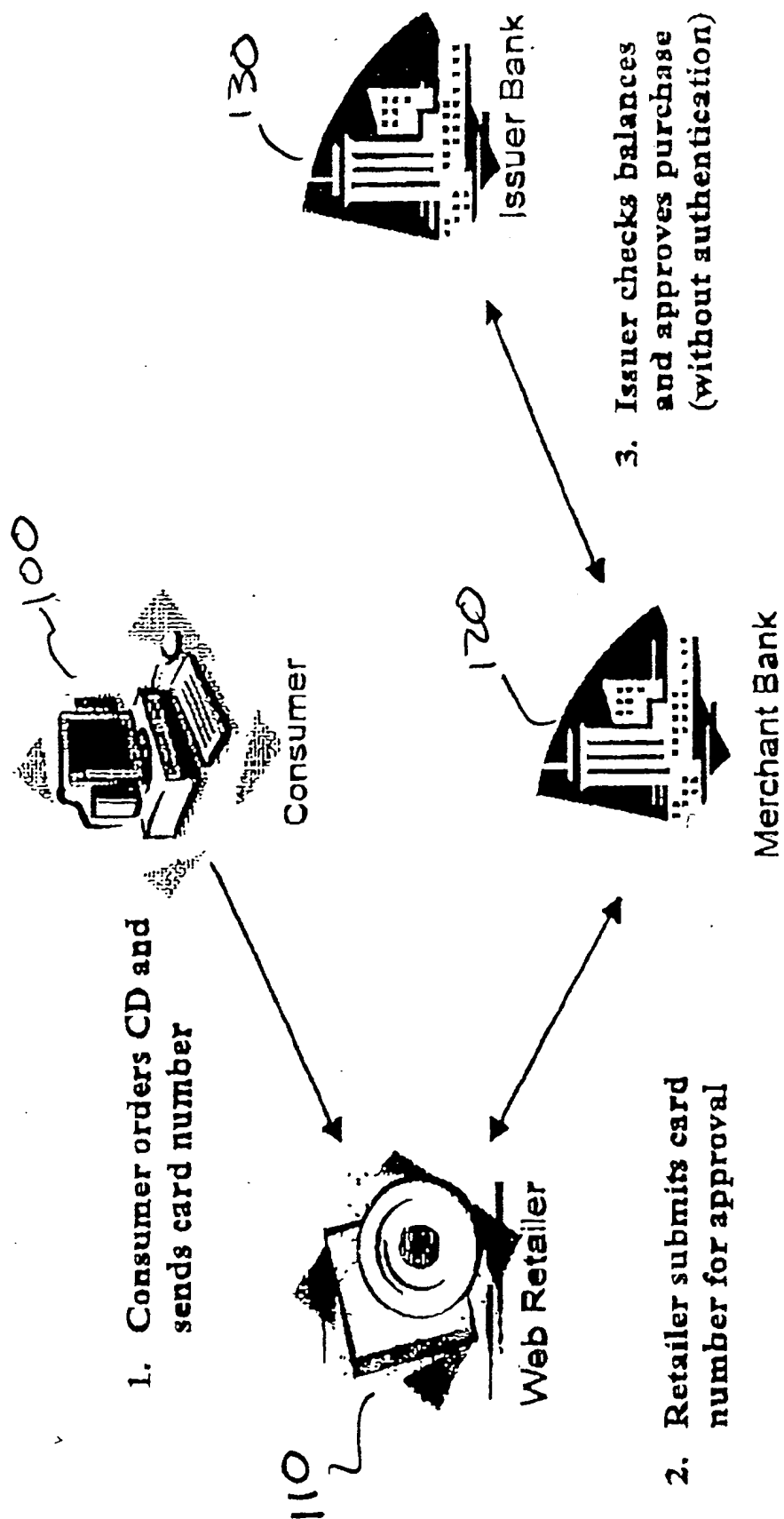


FIG. 1  
Prior Art

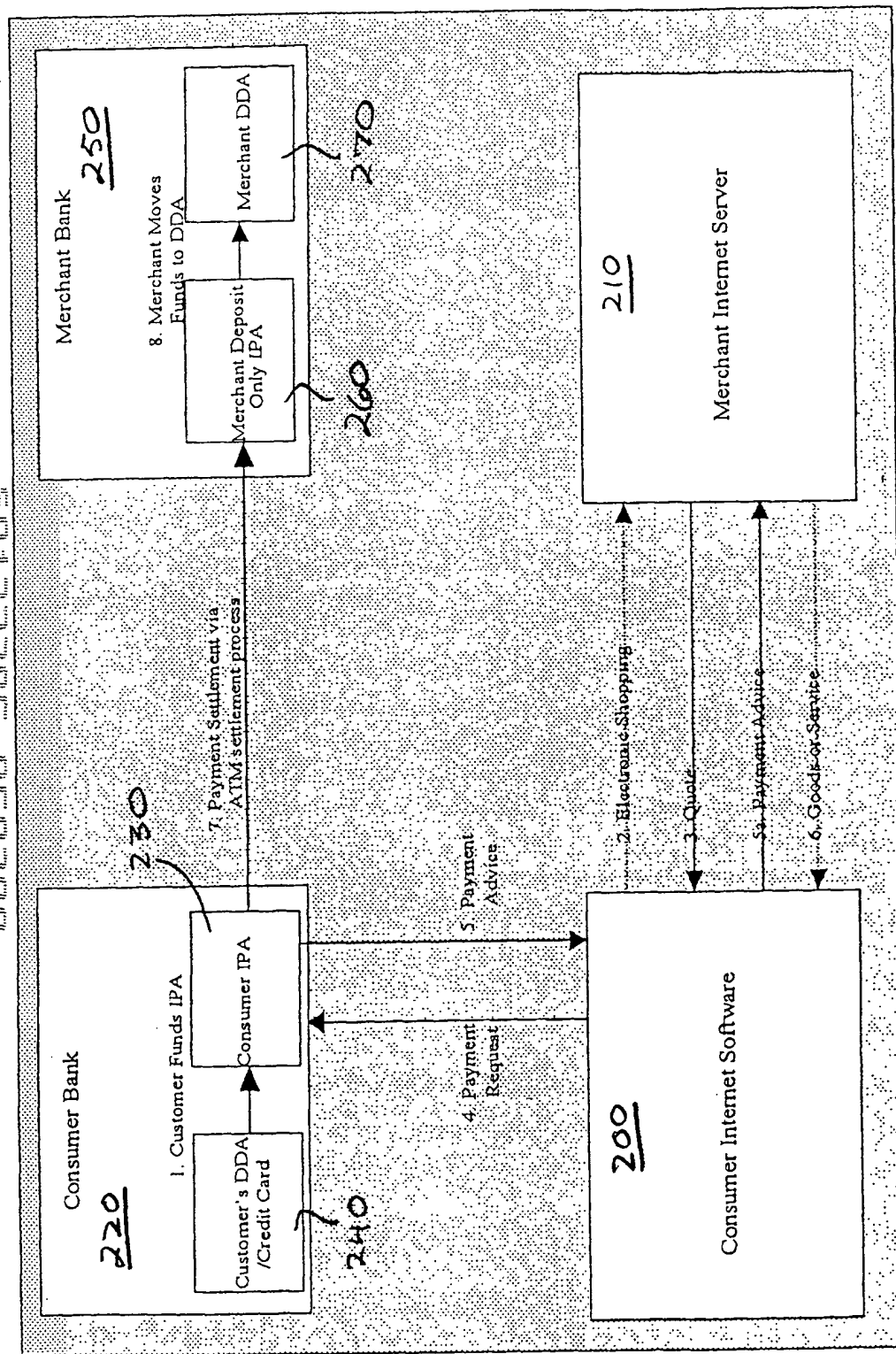


FIG. 2



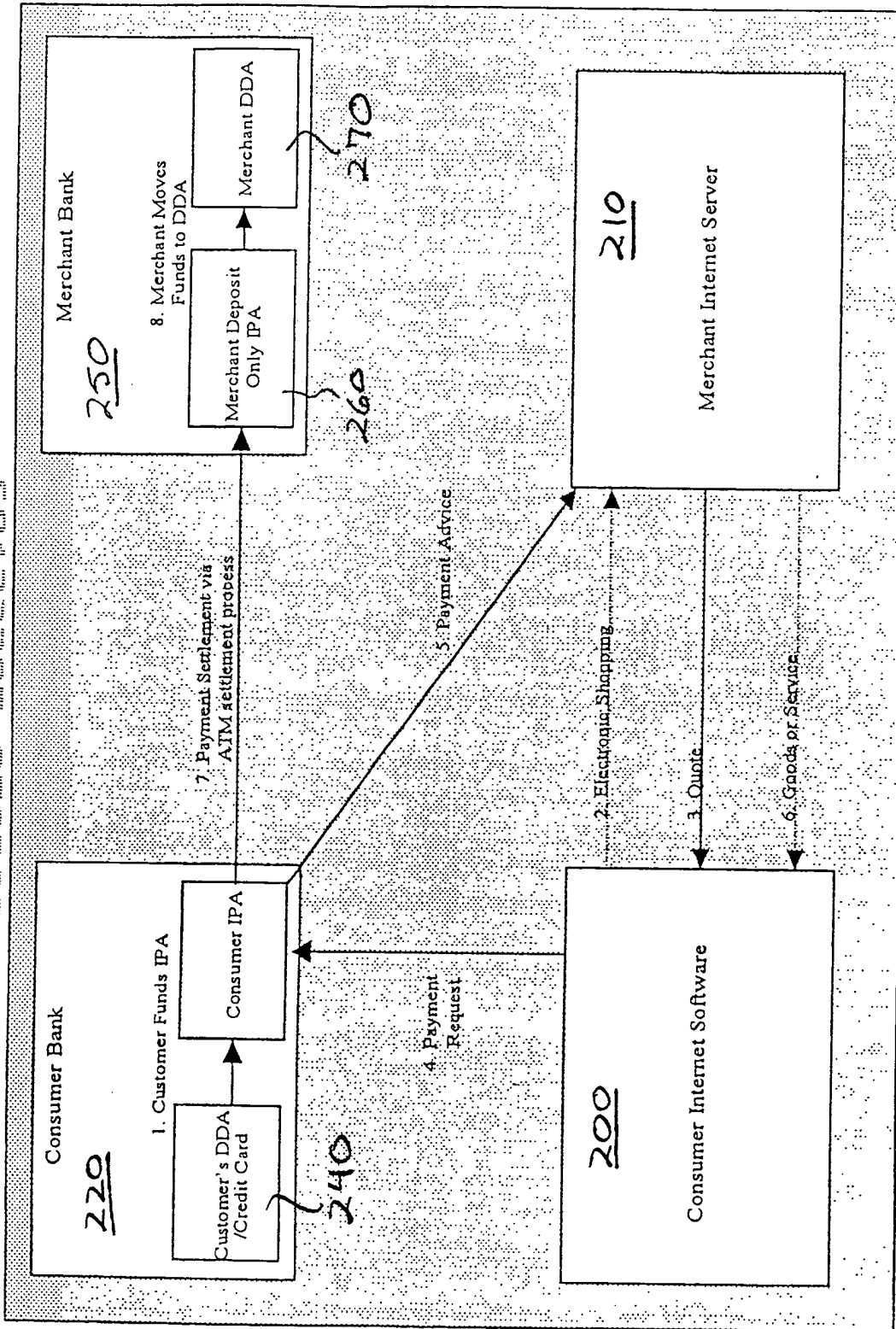


FIG. 3